

REMARKS

The Office Action of July 9, 2010, was received and carefully reviewed. Claims 1-19 and 33-35 were pending in this application prior to the instant amendment. By this amendment, claims 7, 12 and 33-35 are amended. Claims 7 and 12 are amended to correct minor typographical errors, and claims 33-35 are amended to avoid the characterization of the claims as containing “product by process” limitations, and to give the limitations patentable weight. Support for claims 33 and 34 can be found, for example, in paragraph [0120] of U.S. Pat. App. Pub No. 2007/0085938 A1 (“the ‘938 publication”). Support for claim 35 can be found, for example, in paragraph [0159] of the ‘938 publication. No new matter has been added. Thus, claims 1-19 and 33-35 remain currently pending for consideration.

Claim Rejections Under 35 U.S.C. §§102 and 103

Claims 1-10, 16, 18, 19 and 33 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,046,547 to Nishio et al. (“Nishio”), and with evidence provided by U.S. Patent No. 5,142,343 to Hosokawa et al. (“Hosokawa”), or, in the alternative, under 35 U.S.C. §103(a) as being obvious over Nishio and Hosokawa, in view of U.S. Patent No. 6,211,067 B1 to Chen (“Chen”).

Claims 11 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nishio, in view of U.S. Pat. App. Pub. No. 2002/0132396 A1 to Yamazaki et al. (“Yamazaki”). Claims 13 and 17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nishio. Claims 14 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nishio, in view of U.S. Pat. App. Pub. No. 2001/0013913 A1 to Young (“Young”). These rejections are traversed for at least the reasons advanced in detail below.

A. Independent Claims

Applicants submit that Nishio, Hosokawa and/or Chen fail to disclose, suggest or render obvious the invention as recited in independent claims 1-8. In particular, Nishio, Hosokawa and/or Chen fail to disclose, suggest or render obvious the feature of independent claims 1-8 reciting “an insulating layer having a first opening”. To show this feature, the Examiner cites reference numeral 505 of FIG. 9B and col. 7 of Nishio. Applicants again submit that the luminescent layer 505 of Nishio cannot be considered an insulating layer, as is recited in claims 1-8 of the claimed invention, because of its “hole transporting layer” and “electron transporting layer”. *See, for example, FIG. 3 of Nishio and its accompanying description.* Furthermore, col. 7 of Nishio, as cited by the Examiner, discloses only a hole

transporting layer 5a composed of a triphenylamine derivative. Col. 3, lines 24-26 of Hosokawa, further cited by the Examiner, discloses only that a triphenylamine derivative could be an insulator. Although this combination of features may show a hole transporting layer including an insulating material, it does not disclose “an insulating layer having a first opening”, as recited by claims 1-8 (*emphasis added*). Furthermore, because the Examiner cites only a portion of Nishio stating that the hole transporting layer 5a contains a triphenylamine derivative in order to show the insulating layer of the claimed invention, Applicants understand that the Examiner intends to relate the hole transporting layer 5a of luminescent layer 505 to the insulating layer, and not luminescent layer 505 as a whole.

Nishio, Hosokawa and/or Chen fail to disclose, suggest or render obvious the feature of “a surface of the insulating layer and the first conductive layer is planarized and a uniform surface”, as is recited in independent claim 1 and 2, or the feature of “a surface of the first insulating layer and the first conductive layer is planarized and a uniform surface”, as is recited in independent claims 3-8. To show this feature, the Examiner cites FIG. 9B of Nishio, which allegedly shows the surface of an insulating layer (corresponding to reference numeral 505) and the first conductive layer (corresponding to reference numeral 501b) is planarized and uniform. However, as shown in FIG. 3 of Nishio, the hole transporting layer 5a is not a top layer of luminescent layer 5. Thus, a surface of the hole transporting layer 5a is not a surface of luminescent layer 505 in FIG. 9B, and thus cannot be a planarized and a uniform surface with the first conductive layer.

Further, Nishio, Hosokawa and/or Chen further fail to disclose, suggest or render obvious the feature of “a second conductive layer on and in contact with the insulating layer and the first conductive layer”, as is recited in independent claims 1-8, or “a second conductive layer on and in contact with the first insulating layer and the first conductive layer”, as is recited in independent claims 3-8. On page 3 of the Office Action, the Examiner asserts that the second conductive layer, corresponding to discrete capacitance electrodes 506 in FIG. 9B of Nishio, is on and in contact with the insulating layer, corresponding to luminescent layer 505, and the first conductive layer, corresponding to reference numeral 501b.¹ However, as is clearly shown in FIG. 9B, discrete capacitance electrode 506 is not in

¹ On page 3 of the Office Action, the Examiner appears to argue that the first conductive layer of the claimed invention is shown by both reference numerals 501a and 501b. As 501b corresponds to an Al metal and 501a corresponds to a contact hole, Applicants understand that the Examiner intended to relate the first conductive layer of the present invention only to reference numeral 501b. Applicants request clarification if this understanding is incorrect.

physical contact with luminescent layer 505. Furthermore, although col. 16, lines 25-28 of Nishio provides that the discrete capacitance electrode 506 is electrically connected to the transparent pixel electrode 504 by the contact hole 501a and the Al metal 501b, it does not disclose that discrete capacitance electrode 506 is electrically connected to luminescent layer 505.

In addition, Nishio, Hosokawa and/or Chen fail to disclose “a semiconductor layer over the second conductive layer with a gate insulating film therebetween”, as is recited in independent claims 3-8. The Examiner alleges that this feature is shown by FIG. 9B of Nishio, wherein the semiconductor layer corresponds to reference numerals 3a-3c and the gate insulating film corresponds to reference numeral 12. However, the gate insulating film 12 of Nishio is formed above the semiconductor layer. Thus, the structure as claimed, wherein the semiconductor layer is over the second conducting layer with a gate insulating film therebetween, cannot be shown by Nishio.

With respect to independent claims 5-8, Nishio, Hosokawa and/or Chen further fails to teach “an electroluminescent layer over the first electrode”. The Examiner argues that this feature is taught by reference numerals 507 and 506 of Nishio, respectively. However, Applicants submit that reference numeral 507 of Nishio corresponds to a capacitance layer, and not an electroluminescent layer, as asserted by the Examiner. Further, luminescent layer 505 of Nishio is provided below the asserted first electrode 506.

Thus, Applicants submit that Nishio fails to disclose, suggest or render obvious the above limitations of independent claims 1-8, particularly in combination with the other recited features of the invention. Hosokawa, cited by the Examiner as allegedly teaching that triphenylamine derivative is a known insulating material, fails to overcome the above deficiencies of Nishio. Chen, cited as allegedly teaching the planarizing of metal plugs using chemical mechanical polishing, also fails to overcome Nishio’s deficiencies, taken alone or in combination with Hosokawa. Thus, Applicants submit that the rejections of independent claims 1-8 under §§102 and 103 are improper, and should be withdrawn.

B. Dependent Claims

Dependent claims 9-19 and 33-35 are also believed to be allowable by virtue of their dependency on at least one of claims 1-8, and also on their own merits. For example, with respect to claim 9, the Examiner asserts that Nishio teaches that the thin film transistor or the display device further comprises a titanium oxide film below the first conductive layer.

However, col. 16, lines 61-62 of Nishio, as cited by the Examiner, relate to the capacitance layer 507, which is provided above the asserted first conductive layer. *See, for example, FIG. 9B of Nishio.*

With respect to dependent claim 10, the Examiner argues that Nishio teaches a thin film transistor or display device further comprising a film comprising aluminum. *See page 17 of the Office Action.* The Examiner fails to consider the further limitation of claim 10, “[...] below the first conductive layer”, or cite relevant portions of Nishio under which this limitation is rejected. Similarly, with respect to dependent claim 16, the Examiner has overlooked the limitation “including at least one of hydrogen and halogen” *See page 18 of the Office Action.*

With respect to claims 33-35, the Examiner asserts that Nishio teaches that the first insulating layer can be formed by a heat-resistant high molecular weight material. *See page 18 of the Office Action.* However, the Examiner has again failed to cite a portion of Nishio allegedly disclosing this feature. Assuming that the omission was made due to the alleged product by process format of the limitation, Applicants note the amendment herein of claims 33-35 to remove such a format, and respectfully request that the Examiner cite specific portions of Nishio allegedly disclosing their recited features.

For these reasons, Applicants respectfully request reconsideration and allowance of claims 1-19 and 33-35. If a conference would be helpful in expediting prosecution of the instant application, the Examiner is invited to telephone the undersigned to arrange such a conference.

Respectfully submitted,

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